

REMARKS

Claims 29-32, 34-37, and 39 remain in the case. Claims 33 and 38 are canceled and claims 29 and 35 have been newly amended.

Claims 29 and 35 have been amended to further delineate the invention by incorporating the limitations associated with the "first" and "second" rotational speeds and the operation of the clutch, all of which enable a more "precise" rotor speed control. These limitations may be found in the specification of the original U.S. Patent 5,865,700 at column 1, lines 53-57, column 2, lines 7-18, column 2, lines 34-47, column 4, lines 8-21, column 4, lines 36-41 and lines 53-66.

All claims have been rejected under 35 U.S.C. 103(a), as obvious over the Pitt reference (U.S. Patent 3,093,946) in view of the Wieneke reference (U.S. Patent 3,606,742). This rejection is traversed and reconsideration is respectfully requested for the reasons hereinafter set forth.

The present invention resides in an improved Combine system emanating from a more precise control of rotor speed, which is accomplished by directly (without being dependent on load rate or throughput) controlling that speed with hydrostatic drive means and a clutching system having an electronic control circuit. The system is capable of having the rotor regulated without altering the speed of the engine when the clutch is disengaged.

The Pitt reference has been cited as having all the elements of the claims, including, for example, a threshing rotor, an engine, a hydraulic pump driven by the engine, and a hydraulic motor driven by the pump and driving the rotor. The Pitt reference was said to lack only "an electronic control for automatically setting the rotor's speed." That is, Pitt had a manual setting for the speed lever.

However, the claims as currently amended make it more clear that the present invention requires the rotor drive speed to be controlled independent of the engine speed and independent of (what is described in the Pitt reference more plainly as) the "ground speed." However, in the Pitt reference the rotor speed is dependent upon the load rate. Generally, the Pitt reference senses load pressure, in the hydrostatic drive, in order for the threshing cylinder to respond to the ground speed and the load rate. The drawback to this system is clear. Trying to measure the load at the drive of the threshing cylinder, in order to control ground speed, yields a response much too late, if there is any significant variation in the feed rate. By the time the combine slows down, the cylinder could already be plugged. Pitt makes no attempt to control the threshing cylinder speed except by controlling the ground speed and that is set manually. Also, the Pitt reference uses a straight hydrostatic drive for the threshing cylinder while the present invention uses a clutching system in the manner of a hydro-mechanical drive.

The Wieneke reference deals with a system for controlling the threshing cylinder speed by measuring throughput at the feeder chain. An increase in throughput measured at the feeder chain will increase the speed of the threshing cylinder. Then, as the feed rate slows, a delay occurs prior to the slowdown in speed of the threshing cylinder. The delay served to allow time for the previously measured high feed load to pass through the threshing and separating process. This approach of monitoring the load at the feeder is quite old and has also been found to respond too late if there is any significant variation in the feed rate. Accordingly, although Wieneke might readily be combined with the Pitt reference for purposes of adding an electronic circuit, the system still falls short of the present invention, and unlike the present invention, defeats the desire to maintain a precise, instantaneous and responsive speed for effective

threshing and separation, of particular loads. That is, the present invention rotor speed can more readily respond to significant variations in feed rate.

In Summary, it is respectfully submitted that the claims, as amended, are patentably distinct over the references, and that the references fall far short of rendering the present invention obvious under 35 U.S.C. 103(a).

Respectfully submitted,

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6 / 24 / 03
Date